

Student Name: _____ Pd. _____ Date: _____

Stoichiometry Exercises 2

Solve the following problems. Show all of your work.

- Magnesium reacts with hydrochloric acid to produce magnesium chloride and hydrogen gas.
 - Write the balanced equation for this reaction.
 - If you start with 25.0 g of magnesium, how many grams of hydrogen gas will form?
 - If you start with 140.0 g of hydrochloric acid, how many moles of magnesium will react?
- Ammonia and oxygen combine to form nitrogen monoxide and water
 - If you start with 80.0 g of O_2 , how many grams of nitrogen monoxide will you produce?
 - How many grams of H_2O will you make?
- Ferric oxide plus carbon monoxide gas yields iron metal and carbon dioxide gas
 - How many grams of Fe are made if 0.576 moles of CO_2 are produced?
 - 100.0 g CO reacted with excess ferric oxide. If only 114.3 grams of Fe were produced, what was the percent yield?
- Plumbous oxide and oxygen gas react to form plumbic oxide
 - How many moles of plumbic oxide will be formed from 334.8 g of lead(II) oxide?
 - How many formula units of product will form from 1,700 liters of O_2 at STP and excess plumbous oxide?
- Nitrogen gas and hydrogen gas combine to form ammonia (at STP).
 - In the above reaction, how many liters of ammonia will be produced from 7.2 liters of hydrogen gas?
 - How many grams of nitrogen are needed to produce 460 liters of ammonia?
- Pentane (C_5H_{12}) combusts.
 - How many grams of carbon dioxide form from 320.0 g of pentane?
 - How many grams of water are produced if 200.0 g of CO_2 are produced?
 - You start with 150.0 g of pentane. How many grams of H_2O will you make?
- A solution containing 14.0 g of silver nitrate is added to a solution of excess calcium chloride. Find the mass of precipitate produced.